

**CLAIMS:**

What is claimed is:

- 1        1.        A method comprising:  
2                removing material from a surface of a wafer by chemical mechanical  
3                polishing the wafer with a slurry comprising an oxidation agent for the  
4                material and a buffer; and  
5                monitoring the current required to rotate the wafer as a measure of  
6                the material removal endpoint.
- 1        2.        The method of Claim 1, further comprising:  
2                buffering with a weak organic acid/salt pair.
- 1        3.        The method of Claim 2, further comprising:  
2                buffering with a weak organic acid/salt from the group consisting of  
3                citric acid/potassium citrate, acetic acid/potassium acetate and ascorbic  
4                acid/potassium ascorbate.
- 1        4.        A composition comprising:  
2                a slurry for chemical mechanical polishing a metal material;  
3                an oxidizing agent for the metal material;  
4                an abrasive; and  
5                a buffer;  
6                wherein the composition is suitable for use in a chemical mechanical  
7                polish process.
- 1        5.        The composition of Claim 4, wherein the oxidizing agent is hydrogen  
2                peroxide.
- 1        6.        The composition of Claim 4, wherein the buffer is a weak organic  
2                acid/salt pair.

- 1 7. The composition of Claim 6, wherein the weak organic acid  
2 comprises one of the group consisting of citric acid/potassium citrate, acetic  
3 acid/potassium acetate and ascorbic acid/potassium ascorbate.
- 1 8. The composition of Claim 4, wherein the metal film comprises one  
2 of the group consisting of tungsten and titanium nitride.
- 1 9. The composition of Claim 4, wherein the oxide film comprises  
2 silicon dioxide.
- 1 10. The composition of Claim 4, wherein the abrasive comprises one of  
2 the group consisting of silica and alumina.
- 1 11. The composition of Claim 4, wherein the endpoint signal of the  
2 buffered slurry is enhanced over the endpoint signal of the unbuffered  
3 slurry by at least a factor of two.
- 1 12. A kit comprising:  
2 a slurry for chemical mechanical polishing a metal material;  
3 an oxidizing agent for the metal material;  
4 an abrasive; and  
5 a buffer.
- 1 13. The kit of Claim 12, wherein the metal comprises one of the group  
2 consisting of tungsten and tantalum nitride.
- 1 14. The kit of Claim 12, wherein the abrasive comprises one of the group  
2 consisting of silica or alumina.
- 1 15. The kit of Claim 12, wherein the buffer is an organic acid/salt pair.
- 1 16. The kit of Claim 15, wherein the organic acid comprises one of the  
2 group consisting of citric acid/potassium citrate, acetic acid/potassium  
3 acetate and ascorbic acid/potassium ascorbate.

- 1 17. The kit of Claim 12, wherein the endpoint signal of the buffered
- 2 slurry is enhanced over the endpoint signal of the unbuffered slurry by at
- 3 least a factor of two.

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